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Cognitive Data Glasses

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DON SBIR/STTR Training Workshop - Access to Government Property

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Compact MEMS Precision Azimuth System - Program Overview

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US Naval S&T in Support of Spectrum Operations and EMW

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Photoacoustic Sensing of Explosives (PHASE)

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NSAM Teams with NGAS to Reduce F-35 Acquisition Costs through Integration and Automation

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Slamming Loads: Realistic Testing, Computational Strategy and a new Approach to reduce their Intens N00014-17-S-F003, Funding Opportunity Announcement FY2017 Office of Naval Research (ONR) Additional Strategy and Approach to reduce their Intensity Property of Naval Research (ONR) and Intensity Property of

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N00014-17-S-F007, Office of Naval Research (ONR) Immersive Sciences for Training, Education, Missic

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CRISIS case study

Radar Measurements of Ocean Surface Waves Using POD

ONR SBIR 2017.2 SBIR Topics

Harbor Patrol Field Demo of CARACas Multi-Agen Autonomy

Multi Domain Battle Management Automation Discription

Velox Agile Swimmer

Velox Agile Swimmer

Multiple Domain Battle Management Automation

Parallel Adders for Low-Pass Modulation-Demodulation ADCs

Editorial: Auditory Injury - A Military Perspective

Engineering out the Noise

Augmenting autonomous vehicle sensor processing with prior data

Naval Engineering: A National Naval Responsibility

Operationalizing Basic Research and Scholarship by the Office of Naval Research: A System-of-System Smoothed particle hydrodynamics modeling of impact of additively manufactured functionally graded Additive Manufacturing of 316L Stainless Steel Impregnated with Boron Nitride Nanotubes

The American Association for the Advancement of Science (AAAS) Fellow Program

Environmental WG Brief ICE-PPR May 2017

Autonomy for Unmanned Surface Vehicles

Dielectric Breakdown Of Vaporized Organic Carbonates

Dielectric Breakdown of Vented Li-Ion Battery Electrolyte

Self-Locating / Self-Fistured Structure S2633 SIMULIA Tech Meeting

1000 V Lithium Ion Battery Module with Novel Measurment and Protection Technologies.

Design of a role split and dual operator human machine interface for submarine electronic support models.

A historal View of Magenesium Floride as an Infrared Window

CARACaS multi-agent maritime autonomy for USVs in the Swarm II harbor patrol demonstration

Current Sharing in Parallel Cell Batteries Cycled at High C Rates.

Harmonic Content Evaluation of Multi-Pulse Rectifiers for Capacitor Charging Application

Integration and Study of Gas Turbine Generator with Hybird Energy Storage Module for Naval Applicat

Ontology-driven Distributed Composable Simulation

Department of the Navy Laboratories to be recognized at the 2017 Federal Laboratory Consortium Aw Video

FY15 Annual Report Compilation

## Book

Functionalized aluminum oxide hydroxide for heavy metal removal

Integrated Hybrid Structural Management System - Aircraft Impact Monitoring

Interesting Challenges for the Next Generation of Scientists and Engineers

A Framework for Computational Mechanics in Hyper Velocity Impact

Navy ManTech Program Impacting Key Platfrom Affordability Naval Shipyard UPdate

Ingalls Shipbuilding Using "Digital Thread" to Optimize Paint Management

Ingalls Shipbuilding is Creating a Unified Data Management Tool to Optmized Paint Management

Increasing Productivity and Reducing Distortion with Hybrid Laser Arc Welding

Ingalls Shipbuilding is Automating Work Assignment & Status Processes with Productivity Improvment

Ingalls Works to Streamline Short-Term Tactical Planning

Evaluating the Integration of Operations Tasks while Optimizing ISR

Evaluating the Integration of Operations Tasks while Optimizing ISR

Invest Early, Smart & Effectively (E-S-E)

Sea Warfare & Weapons Dept (ONR33) Undersea Research Programs

High Fiedelity Moddeling of Aero Interation BetweenShip & Rotor

Expeditionary Cyber Program Officer - Vacancy Announcement

Noise from Pulsating Supercavities

Code 32 Fact Sheets - 342

Solid Mechanics - Composite and Sandwich Structures Fact Sheet

Composite Materials in the Arctic Fact Sheet

Critical Recent Advancement of GaN Technology and MMICs for Millimeter-Wave Applications

Technology Development and Demonstration in Support of Future USMC Requirements for Bulk Fuel A Investigation of femtosecond laser induced ripple formation on copper for varying incident angle

April 24 DSI Forum Presentation, Dr. Paul Zablocky

The impact of Corroded Copper Alloys on the Performance of 1.8 kj Railgun

**Extreme Environment Materials Fact Sheet** 

Nanomaterials Fact Sheet

Structural Polymer Matrix Composites Fact Sheet

Structural Health Monitoring Sensors Fact Sheet

ENARG Briefing - Focus Area: Physiological Episodes

Injection Mixing and Initiation Challkenges in Rotating Detonation

Experimental and Numerical Stidy of Hard wall Corrugations for Supersonic Jet Noise Reduction

Experimental Results for Supersonic Jet Noise Using Nozzle Fluidic Inserts

Waste Heat Recovery in Military Applications

Coordinating Procurement Decisions with a Dispatch Strategy Featuring a Concentration Gradient

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- C Distribution Authorized to U.S. Government Agencies and their Contractors
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## Subject Area

UAS flight operation for marine mammal surveys

International Naval S&T

Communications and Networks

Multi-Abstractions System Reasoning Infrastructure

NMC -NDI for EBAM of Ti (A2506) project Manufactuirng Technology

**Environmental Modeling** 

Ship Structures

Automotive Air-Borne Noise

Vehicle Mobility

Electronic Warfare

**Training** 

Improved Jet Flow Predictions with CFD

**High Power Microwaves** 

History of Science/Missile Domes

Platform Power & Energy

High Energy Lasers

Corrosion

**Unmanned Aerial Systems** 

Advanced Technology

various SBIR technologies

various STTR technologies

various SBIR/STTR technologies

Innovative Naval Prototypes

Shock physics and computational mechanics

ONR 30 portfolio for presentation at the TTCP annual meeting.

ONR Program futures brief for TTCP.

POM17 FNCs

**Environmental and Ship Motion Forecasting** 

High Energy Lasers

Transduction Materials for Maritime Sensing

Transduction Materials for Maritime Sensing

US Navy R&D Overview

Manufacturing Technology

Research Opportunity for Program Officer work -- integrated circuits, THz-frequency communication

Platform Power & Energy

Platform Power & Energy

Communications

Multidisciplinary

General briefing for

Human Performance, Training, and Education

Human Performance, Training, and Education

Electronic Warfare

High Power Microwave Source

High Power Microwave Source

Materials and Processes

Human Performance, Training, & Education

High Energy Lasers

Sensor data reception glasses

Digital Human Modeling

Vehicle Navigation

**Data Analytics** 

Future Naval Capabilities (FNCs)

Arctic

Pattern of Life

PROBABILITY THEORY

EO/IR Imaging systems

Sustainment and Repair Technology COE

Digital Communications/Electronic Warfare

noise induced hearing loss

Naval Power and Energy Systems

Naval Power and Energy Systems

Naval Power and Energy Systems

Cognitive Agents

Fluid Dynamics

Information Technology

HBCU/MI Program

Photonics/MEMS

Human Performance, Training, & Education

Power and Energy

Sustainment iMAST Navy ManTech project

Naval Power and Energy Systems

Air Frame Structures and Materials

Naval Power and Energy Systems

High Power Microwave Source

Directed Energy Weapons, Lasers, SSI/QRC

NSWC Dahlgren Division

Directed Energy Weapons Laser, SSL-QRC

Sustainment and RepTech iMAST and Navy ManTech project

Metals NMC

Power and Energy

Human Performance, Training, and Education

Structural Fairing Process Improvement Naval Shipbuilding and Advanced Manufacturing NSAM Naval Shipbuilding and Advanced Manufacturing

Composite

Pressure Gain Combustion

Pressure Gain Combustion

Networking

Pressure Gain Combustion

Energy, Docking and Comms

Materials and Manufacturing Processes

Materials & Manufacturing Processes

Magnetometry

Updates dates and guidance for planning letters

321MS planning letter call

**Naval Materials** 

Adaptive training; simulation-based training; computational narrative

Silicon Carbide MOSFETS

Sustainment RepTech ManTech Success Story

Sustainment RepTech iMAST Navy ManTech Project

Composites CMTC Navy ManTech

NMC Metals / Navy ManTec

Acoustics

**Naval Materials** 

Materials and Manufacturing

Naval Power and Energy Systems

HEL

Infrared Sources Pulse Laser

Materials & Manufacturing Processes

Power and Energy

Naval Power & Energy

Electromagnetic Maneuver Warfare (EMW)

**Naval Materials** 

Materials Science & Engineering

Training

Semi-automated forces; simulation-based training

FNC, Power & Energy

Maritime Sensing

**CDEW** 

**Electrical Engineering** 

Aerodynamics

Electromagnetic Maneuver Warfare (EMW)

High Energy Laser Systems

Human Performance, Training, & Education

Dismount Training, Augmented Reality

iMAST Sustainment - RepTech and Navy ManTech

Communication Antenna design

Capable Manpower Future Naval Capability

Human Performance, Training, & Education

Aperture Synthesis for Remote Sensing

Aperture Synthesis for Remote Sensing

Cyber Security for Integrated Control Systems

Physics and Nuclear Engineering

High Power Microwave Source

High Power Microwave Source

**FHP FNC** 

HEL

**STAR** 

STAR

Infrared Sources Pulse Lasers

Atmospheric Propagation of High Energy Lasers

NMC Metalworking Debond Dectector Improvements project

Government Property Requirements for Universities and Non-Profit institutions

NMC - Navy ManTech Flexible Infrastructure

Training Fidelity

CMTC Composite JSF Navy ManTech

Development acoustic technology from 1917 through 1970.

Human Systems, Artificial Intelligence for CYBER

Navy Opportunity Forum

Maneuver

Sonar

**EOC Fiber Optics / Electronics Processing** 

NMC MItigation of Cracking In Sensitized Al project - Navy ManTech

Radar, remote sensing

Radar, remote sensing

matter consists of scientific.

technical or professional issues that are relevant to the mission ONR

GaN Si Co-Integration

Electronic Warfare

**CDEW** 

**Electromagnetic Launcher Instrumentation** 

Power & Engergy

Electrochemical Energy Storage

HESM

Electrochemical Energy Storage HESM

Rotorcraft Autonomy and Human Interfaces

Wave Chaotic System

Random Coupling Model

Tribology and Surface Engineering

Electrical

**FNC Program Overview** 

Decision Tool for Marine Corps Adaptive Planning

Training and LVC

**Nuclear Physics and Engineering** 

Physics and Nuclear Engineering

Tribology and Surface Engineering

Electronics Processing and Manufacturing Technology EOC

**EOC Processing & Manufacturing Technology** 

Tunable Microwave Filters

virtual training

Patent law

Dismount Training, Augmented Reality

Arctic Cooperation, Research and Diplomacy

Selected FY16 & FY17 FNCs

biotechnology

training, EMS

Metal Additive Manufacturing

ONR Overview

- 1. Hawkins FIST2FAC (Littoral ASW)
- 2. Morrison Unmanned Aerial Systems Supervisory Command and Control (Autonomy)
- 3. Bolton Educat2e (EMW)

Undersea Medicine

Materials Science and Engineering

Additive Manufacturing

**Amphibious Operations** 

**ONR STEM Grand Challenge** 

Additive Manufacturing of Titanium Alloys

**Energy Conversion** 

**Energy Conversion** 

Additive Manufacturing

Additive Manufacturing of Titanium Alloys

S&T

temperature variations

Deformable Mirror

NMC NDI for Electron-Beam AM of Ti (A2506) Navy ManTech project

Autonomy

Weapons

The DoD Domestic Preparedness Support Initiative (DPSI)

robotics

Platform Design and Survivability

mission planning, submarine

Corrosion prevention and repair

Data analysis and decision support

**CDEW** 

Counter Directed Energy Weapons

High Energy Laser Lethality Hardening

**Amphibious Operations** 

ONR Medical Science and Technology

Corrosion programs

High Energy Laser Technology

**Applied Power** 

**Directed Energy** 

NNSY Bilge and Tank Maintenance project NMC

ONR 30 Overview

Composite

**Energy Storage** 

Materials Science

Signal processing, target tracking.

Electronic Warfare

Power and Energy

Micro/nanostructures on silicon carbide

Computational & Experimental Fluid Dynamics

Naval S&T

NSAM S2459 Robotic Welding

Turbine Heat Transfer

Magnetic Materials

Magnetic Materials

Maritime Sensor Systems

Undersea Vehicles or Undersea Sensors

Advanced Energetics Materials

**Underwater Targets** 

Atmospheric Propagation

NMC Pipe Production Automation Methods project

Penetration Mechanics

**Underwater Medicine** 

Electrical Power System Design and Analysis

Arctic Observing and Prediction

**IMAST Operations Sustainment Technology** 

NSAM S2401 Measurement Technology

MEMS Gyroscope, Northfinding

MEMS Gyroscopes, Northfinding

Standards and COTS Ecosystem

Standards and COTS Ecosystem

Turbine Heat Transfer

EW Open Architecture

Ground & Sea Platforms

Photonic Analog-to-Digital Converter

Electronics

Human Performance, Training, & Education

Energy Storage

**Energy Storage** 

ONR Global recruiting brief

Energy Storage

Human Performance, Training, & Education

Platform Design and Survivability

Composites, Weapon Systems CMTC

Human Performance - Immersive Training

**MEMS** 

Prototyping

High Energy Laser Lethality and Hardening

SwampWorks

**Energetic Materials** 

Tribology and Surface Engineering

**CDEW** 

Human Performance, Training, & Education

Human Performance, Training, & Education

Composites / CMTC

**Expeditionary Warfare** 

Historically Black Colleges and Universities/Minority Institutions

Autonomy in MCM

APSHELS - Sarwat Chappell

Autonomous Ground Vehicle

**ACV High Water Speed** 

Computational & Experimental Fluid Dynamics

Maritime Sensor Systems

**CDEW** 

Advanced Energetic Materials

Advanced Energetic Materials

Advanced Energetic Materials

Advanced Energetic Materials

**ACV High Water Speed** 

LVC training

Structural Health Monitoring

Recruitment

2016 Recruitment

Materials Science and Engineering

NSAM Shipbuilding Outfitting Tools and Processes Success Story

Gas Turbine Engines

Coordinated Autonomous Vehicle Control

SIGMA for Intelligent Enterprise Reconnaissance

Image Processing

NMC Self-Locating Self Fixtured Structure

S2595 High Deposition Submerged Arc Welding One Pager

Single-Component Polysiloxane Topcoats for Navy Surface Ships and Aircraft

HBCU/MI Program, Nanomachining Technology

computer vision for 3D perception

**Electro-optical Infrared Imaging Sensors** 

Electro-Optics and Infrared Imaging Sensors

NMC Fuel Cell Producibility S2642 Project

NMC Abrasive Blasting Arm for Man Lift R2658 Project

NMC Robotic Welding of Complex Structures (S2636) project

**Human Research Protection** 

High Energy Laser Systems

Artificial Intelligence; Resource Optimization

Decision Support / Resource Optimization / Battle Management

**Propulsion Materials** 

**Emerging Technologies** 

**Photovoltaics** 

**Hybrid Energy** 

NMC Pipe Production Automation Methods S2565 project

Autonomy

Composites CMTC - F-35

**Active Sonar Signal Processing** 

Laser Beam Propagation

Counter Directed Energy Weapon

**High Power Microwaves** 

Laser Beam Propagation

Air craft Technology

Composites Q2533 Fire Resins

Composites CMTC

Composites

**Fires** 

**Energy Programs** 

**MEMS** 

**MEMS** 

Probability theory

In-Transit Visibility

**Energetic-Materials Basic** 

Science

**Underwater Acoustics** 

Gas Turbine

**NATO** Report

Materials

Human Performance, Training, & Education

Human Performance, Training, & Education

Tribology and Surface Engineering

Composite

Power & Energy

Active Sonar Signal Processing

NMC Automated Hanger Manufacturing

Advanced Concepts for Sea Warfare & Weapons

Advanced Concepts for Sea Warfare & Weapons

Femtosecond Laser Surface Processing

Power and Energy

Power and Energy

Power and Energy

Naval Science and Technology Strategy

Underwater bubbles

Presentation on Grants Database

Magnetic Inductor Plated Materials

**FNC** 

Maritime Sensor Systems

**Human Systems** 

Wave Forcasting, Time Domain Ship Motions

Ship Seakeeping

Ductile fracture with rate and anisotropic behavior

Manufacturing Technology

Aviation/ Airborne Launch &

Recovery

Additive manufacturing and standards

Informational Meeting to Inform HBCU about the ONR YIP

Autonomy

Maritime Sensor Systems

W-band LNA and GaN Technology

Microbiology

Electromagnetic Maneuver Warfare

corrosion resistance technologies

DURIP and MURI Basic Research Programs

**EOC Silicon Carbide MOSFETS** 

NMC Hull Production Automation Methods S2564 project

Human Performance, Training, & Education

STEM

Internships

Single-Component Polysiloxane Topcoats

Printed Sand Casting Molds and Cores S2635 project NMC

Lasers

Advanced Energetic Materials

**Energy Storage** 

ONR Navy ManTech, PEO and COE Points of Contact

Sea Based Aviation-Aircraft FW Aero & Control

EM Railgun

NMC Self-Locating/

self-Fixtured Structure S2633

**NMC Annual Report** 

Lasers, Optics & Imaging Technology

Power and Energy

decision-making

EW

**IMAST Operations** 

Magnetometry

**Electromagnetic Materials** 

Autonomy

**USW** 

Ship Tech 2016 - NMC

virtual training

training

NMC Mechanized Cable Pulling S2560

decision support tool

marine biology

EOC EOTS Z2495 project

**EOC Navy ManTech Success Stories** 

Information Systems Technology: Information Processing

Power and Energy

Cryptography

**DoN RIF Programmatics** 

Atmospheric Propagation

Power and Energy

Human Performance, Training, & Education

Power & Energy

Condition Based Maintenance

Power & Energy

Power and Energy

NMC Improved Shaft Cladding Materials and Processes

Pipe Production Automation Methods S2565 Abstract

NMC Abstract Sonar Dome Fabrication Improvements

Wave modeling, wave radar, operator guidance

**MEMS** 

**MEMS** 

Autonomous Aerial Cargo/Utility System

P&E

**Aerodynamics** 

**Aerodynamics** 

Fluid Dynamics

Flight Controls

Power and Energy, ground vehicles

Shipboard Gas Turbine Engines

Air vehicles

Fluid Dynamics

Power Projection & Integrated Defense

Power & Energy

Polymer Chemistry

IMAST Sustainment ManTech project presentation

ONR SALRS Program (PM: John

Kinzer

NSAM S2459 Robotic Welding of Interim Products

ONR SBIR 16 1 Topics

**ONR STTR 16 A Topics** 

Navy ManTech Projects

Magnetometry

Microbiology

**EOC Paper Silicon Carbide MOSFETS** 

EMPF RF System and Component Technologiest

hyperspectral imagining

Composites - Building Block Development

Composites - Building Block Development

Navy Laboratory Workforce Development

Hydrodynamics

Microbiology

Additive Manufacturing

Electronic Warfare

Grants and DON Human Research Protection Requirements

**Fires** 

NSAM Critical Resource Planning

Additive Manufacturing and Digital Manufacturing

NMC Weapons and Stores Elevator Doors Mfg. Cost Reduction

NMC CVN Vertical Build (S2561)

NMC Self-Locating / Self-Fixtured Structure

Electromagnetic Launch Applications of Materials Science

Pulse Power uses of Battery power supplies

Materials Research

active circulator, circulation, isolation GaN HEMT

semi-autonomous forces

training, aircraft, measures of learning

training

Combined Federal Campaign

Power of Energy

Public release of announcement of STTR sub-contract award by UALR

ONR experimentation program description

Autonomous Aerial Cargo/ Utility System (AACUS)

Autonomous Aerial Cargo/Utility System (AACUS)

Autonomous Aerial Cargo/Utility system (AACUS)

Mine Countermeasures

CMTC Canopy, Acrylic

Manufacturing Technology

EOC Electronics Processing and Fabrication ManTech

EOC Electronics Processing and Fabrication ManTech

International Research Collaboration

Technology Transfer

**EMPF Electronic Processing and Fabrication** 

EMPF Navy ManTech Electronic Processing and Fabrication

NMC Improved Weapons Magazine C-Channel S2582 Project

**Human Simulation** 

Weld Sequence Planning for Major Assemblies S2602

NSAM S2547, S2591, S2552, S2550-A, S2497

NSAM Navy ManTech Project

**NSAM Project Acoustic Machining** 

NSAM

**NSAM** - Robotic Welding

NMC Self-Locating Self Fixtured Structure Project S2633

Shipboard Air craft Landing

## Corrosion

Finding Other People's Money

Power & energy; waste to energy

**EMPF Fiber Optics /Electronics Processing** 

NSAM S2593-A, S2550-A, S2569, M2598 ManTech Projects

**EMPF Model Based Enterprise** 

Titanium piping corrosion

training fidelity, system development

Operational Energy optimization

STAR

NMC Automated Turbine Airfoil Trailing Edge Rouding

Power and Energy

Power and Energy

Cyber Science & Technology

Fleet Synthetic Training Technology

**EOC Processing and Manufacturing Technology** 

Gas Turbine Enignes

Fas Turbine Engines

Electronic Processing and Fabrication

Aerodynamics

Elecrical Engineering

Operational Energy Optimization

**Materials Science** 

Electrical Engineering

Railgun Modeling & Simulation

Localization

Jet Engine Noise Reduction

Compositve Structered Analysis

Success Story NSAM S2459 Robotic Welding of VCS Interim Products

Sucess Story NSAM S2554 Capacity Planning Automation

NSAM Success Story S2555 Work Flow Tracking System

Power and Energy

Fluid Dynamics and Acoustics

**Undersea Signal Processing** 

**Undersea Signal Processing** 

**Energetic Materials** 

Computational Mechanics in Glass

Communications/Networks

Nonlinear Frequency Devices

Fiber lasers

Power and Energy

Operational Energy Optimization

Advanced Materials

SBA Structures and Materials

**AACUS** 

Mechanized Cable Pulling S2560 video

Code 32 Overview

Synthetic Biology, Biotechnology, Microbiology

**MEMS Navigation Grade Gyroscopes** 

MEMS Navigation Grade Gyroscope

Reports of work done by PIs with FY15 funds.

Railgun

Electrical Engineering

**Electrical Engineering** 

Railgun

Earth to Space Lauchers

**Undersea Signal Processing** 

Fiber lasers

**Undersea Signal Processing** 

Power and Energy

Polymer Chemistry

NMC Distortion Mitigation for Additively Manufacured Electronic

NMC Mechanized Cable ulling S2560

Nonlinear frequency devices

**Energy Efficiency** 

Air Platforms

Counter DEW

HPM

High-Power Microwave Technology

**Applied Optics** 

NATO Test Report Chapter

Demo Test Setup

Arctic research planning

Counter DEW

High Energy Laser Technology

Tunable Microwave Filters

**Energetic Materials** 

Advanced and Additive Manufacturing

**CDEW** 

Sea Based Aviation Aircraft S&T

**Unmanned Surface Vehicles** 

Mild (Contract #N00014-09-D-0777,LWSD Contract

**Unmanned Surface Vehicles** 

IED detection

Press Resease: Spectral and Reconnaissance Imagery for Tactical Exploitation (SPRITE)

Undersea Medicine

Logistics, power and energy, fleet maintenance, command and control

acoustic uncertainty, transmission loss

Electronic Warfare

High Power Microwaves

**HPRF** 

Simulation of Pulsed Power Components

Counter Directed Energy Weapons

**CDEW** 

Virtual Showcase

**HPRF Applications** 

HPRF Modeling and Simulation

**CDEW** 

Composite Structural Analysis

Composite Structural Analysis

**Unmanned Surface Vehicles** 

**Power Engergy** 

Power and Energy

Polis II Press Release - Modus Operandi N00014-15-C-0140

Data Processing

On-chip Integrated Magnetic Inductors

RF Radiated Noise and Interference

InTop Demonstration

Virtual Resource Manager and Allocations

Power and Energy

Seabasing

High Power Microwaves

High Powe Microwaves

DoN SBIR/STTR Transition Program (STP)

**Unmanned Surface Vehicles** 

**FEL** 

**CDEW** 

FEL

Signal Processing

NMC S2560 Mechanized Cable Pulling

NMC Weld Sequence Planning S2602 Poster

NMC Pipe Assembly S2398 Poster

systems development, risk assessment, training technology

training, safety, fidelity

Power nd energy; wireless power

Structural Acoustics

Robotics

systems development, risk assessment, training technology systems development, risk assessment, training technology

NMC Pipe Production Automation Methods Poster S2565

ocean modeling

Fiber lasers

Microelectronics

Power and Energy

**Electronic Systems** 

NMC CVN Veritical Build S2561 Poster

Directed Energy, High Lasers HEL Weapons

Counter Directed Energy Weapons

Unmanned Surface Vehicles

**Unmanned Surface Vehicles** 

**Human Systems** 

DoN SBIR/STTR Transition Program (STP)

Additive manufacturing

DoN SBIR/STTR Transition Newsletter - Winter 2016

CMTC Composite SS

Power and Energy

corrosion coatings

**Propulsion Materials** 

corrosion abstract for conference

**iMAST Projects** 

Electronics Processing and Fabrication EOC Navy ManTech

Resource Optimization; Adaptive and Machine Learning

Lasers

Cyber

Power and Energy

NMC Poster for Ship Tech

**Propulsion Materials** 

Ships Systems and Engineering

**Propulsion Materials** 

Cognitive engineering and decision support

Sensors

NSAM S2595 High Sepostion Submereged Arc Welding project article

Power and Energy

semi-automated forces; simulation based training

Pipe repair technologies

Award for Navy Metalworking Center

Autonomous Aerial Cargo/Unility Systems (AACUS)

Automomous Aerial Cargo/ Utility System (AAcus)

Laser Beam Control

S&T

Navy ManTech Platform Affordabilty

Statistical Analysis, Algorithm Development

Laser Beam Control

Laser Beam Control

HPM

Assured Access to the Maritime Battlespace

Hypoxia Alert and Mitigation System

**CDEW** 

Counter DEW

High Temerature Superconductor

live, virtual and constructive; training; semi-automated forces

**NSAM** rojects Newsletter Articles

Cyber/Cryptography

NSAM Award Article Resoruce Planning

**NSAM Poster** 

High Energy Laser

S&T

PENETRATION MECHANICS

Penetration Mechanics

**Propulsion Materials** 

Electric Power

Environmental and Ship Motion Forecasting

S&T

Electrical / Electronic Technologies EMPF

Poster Electrical / Electronics Technology EMPF

NSAM Improved Cable Lay & Sequencing Tool

NSAM Robotic Welding VCS Assemblies

**NSAM Trade Friendly** 

Navy SBIR/STTR Transition Program

Navy ManTech Project - IMAST Sustainment

Receivers

Power and Engery

Composites CMTX

**CMTC Composite Newsletter** 

Maritime Sensor Systems

**GPS Denied Navigation** 

Ground and Sea Platform Community of Interest Technical Challenges, Focus Areas, Successes, and Capability Needs

GaN

Computer Vision Technologies

One page handout

Directed Energy

Graph Grammars & Graph Transformation

(Data Processing ) Pattern of Life Analysis

(Contract N00014-08-C-0339)

**FEL** 

Advanced and Additive Manufacturing

High Energy Laser & Combat System Development

HPRF Modeling and Simulation

**HPRF** 

High Power Microwave Technology

**CDEW** 

**HEL Deformable Mirrors** 

Polar-related Science & Technology

**HPRF** 

Heterogenous Integration

**Maritime Sensing** 

This FNC Training Focus will cover the new TTA templates and instructions as well as Transition Assessments

NMC - Unit Family Construction Project S2690

CVN Vertical Build (S2561) Project NMC

Aluminum Alloy corrosion studies

Power and Energy

Undersea Medicine

iMAST Sustainment ManTech project

microbiology

Extensions for RYA open source code to enable execution of ONR sponsored work - N00014-12-C-0365

Directed Energy

Autonnomy

Structural Acoustics

A highlight of the structure, oversight, requirements, investment strategy, program reviews, and major events of the FNC program

A review of the FNC proposal process from requirements development through approval, focusing on engagement points and collaboration within the DoN

ONR SALRS Program PM:

Iohn Kinzer

Autonomous Aerial Cargo/Utility System (AACUS)

SBA NNR Aircraft Technology

Undersea Power and Energy

NMC R2659 Improved Crack Repair Success Story

NMC Ship Tech Article

Undersea P&E

Computational Mechnics of Polymers

Computational Mechanics in Glass

Undersea Power and Energy

Undersea Power and Energy

Photonics. Sensors, micro-PNT

Fleet Synthetic Training - technology demonstration event

Additive manufacturing

Materials and Manufacturing Processes

Undersea Power and Energy

Energy

Integrated synthetic training demonstration for Capable Manpower FNC

piping system evaluations/corrosion repairs.

Naval Materials - ICME

FNC training course for ONR Program Managers and their support, focusing on budget and financial management, organizations and processes, and manager responsibilities

Undersea Power and Energy

Disruptive Technologies Division - 03T

Cyber Security

Power & Energy

Semiconductor Laser Diode Array

Cyber security

Modeling and Simulation

NSAM/CNST Success Story S2557

Temporary Services

NSAM S2571 Synchronizing Material Logistics with CVN

Electrical Engineering

Naval Materials -ICME

Power and Energy

NSAM ShipTecj 2016 Article

ONR SBIR 16.2 Topics for Security Review

Microbiology and Biotechnology

**Gut Microbiology** 

Ground and Sea Platform Community of Interest

Undersea Medicine

Power & Energy International Cooperation

DYSMAS Ship Slide

Power and Energy

Optimizing Operational Energy

Basic Research

**IHSMS Future Naval Capability** 

**Energetic Materials** 

**Energetic Materials** 

Signal Detection

Navy Laboratory technologies win National awards.

Technology Transfer

EOC Processign & Manufacturing Technology

Materials and Manufacutring Processes

Manufacturing and materials

**EOC Silicon Carbide MOSFETS** 

2016 TTA Tracker with Transition Funding handouts to seven Resource Sponsors at OPNAV Training

USMC Resource Sponsor FNC Product information - handout

NMC Grinding Swarf Reclamation A2689 Project

Power & Energy International Cooperation

Self-Locating Slef-Fixtured Structure S2633 Project Welding Photo

Power & Energy International Cooperation

Internation Cooperation

Power and Energy

Spectral and Reconnaissance Imagery for Tactical Exploitation (SPRITE), SPECTRAL WIDE-AREA INTELLIGENCE FUSION TECHNOLOGY (SWIFT) Contract No:N00014-15-C-0120

Cybersecurity

Power & Energy

Power and Energy

**Battery Modeling** 

Navy ManTech Affordability

CMP FNC

Supplemental information for FNC Transition Management Training at NAVAIR (Patuxent River, MD)

Plasma, Composites, Surface Prep, Bonding - CMTC

Semiconductor Laser Diode Array

Tactical Edge Networks

Skin-to-Skin Operations

AUTOMATED MOORING SYSTEM

Force Health Protection

Aircraft paint

Training

Communities of Interest within DoD

NRL CBD InTop EW/IO/Comms Facility

Technology Transfer

Technology Transfer

**Energetic Materials** 

Abrasive Blasting Arm for Man Lift R2658 project NMC

SBIR/STTR overview and unique Navy information

mission planning

Railgun

Railgun

Coating Technologies

On-chip power conversion

NSAM M2546 Digital Manufactuirng

Aero Engineering

**Electrical Engineering** 

SBIR and STTR

Comms and Networking

Autonomy

**Underwater Acoustics** 

**Energetic Materials** 

**Rotating Detonation Engines** 

Electronic Warfare

EO/IR Imaging systems, Multi-spectral imaging

Other author/speakers: Susan Spencer, Carlos Sotelo, Y.C. Lo and John Szot

**Energetic Materials and Clusters** 

**Energetic Materials** 

Presentations for the 2016 Forum for SBIR/STTR Transition Small Business

Metamaterials

Power and Energy

Power Generation

**Energetic Materials** 

**Energetic Materials** 

CMTC Composites, Weapons Systems

CMTC Mixing, Materials

**EMPF Project Briefings Electronic** 

DON SBIR/STTR

Outreach

Undersea Medicine

HPRF and Pulsed Power

HPRF and Pulsed Power

**Unmanned Systems** 

Wave & Ship Hydrodynamics

Digital Communications/Electronic Warfare

Navy ManTech Affordability Initiatives Staff Brief

Optical computing, opytical signa and image processing, nanophotoncis

mission planning, subsurface

Air Platforms

Global Positioning System

Code 332 Naval Materials

EO/IR Imaging sensors; compressive imaging

FNC Training on Transition Management

Jet Engine Turbine Reliability

An update on Autonomy for Unmanned systems

Information Systems Technology: Information Processing

automation, training

NSAM SS S2250-A

Human Performance, Training, and Education

**Underwater Acoustics** 

**Electronic Systems** 

Electronic Warfare

communication networks-

Current ONR performer (N000141512009)

NMC SS R2658 Abrasive Blasting Arm for Man Lift

MIcrowave Filters

FNC Program Overview intended for Industry Members

Undersea Weapons and Platforms

Noise Induced Hearing Loss

NMC - project S2633

Undersea Power and Energy

mission planning

NMC project S2635 Navy ManTech

**Underwater Acoustics** 

Ship Seakeeping

Swarm UAVs

Ocean Science & Engineering

NMC Pipe Cutting Machine Technology S2691 Project

Human Performance, Training and Education

code 34 research overview

computational narrative; simulation-based training

adaptive training; simulation-based training

**iMAST** Operations

Materials Science, Water Filtration

Wireless Power Charging

Game Changing Technologies for Land Force Systems

Coating technologies

Improved Tiling Systems S2562 project

NMC SS Tow Cable Maintence Winch

Non Destructive Evaluation annual exchange

Mine Warfare

Mine Warfare

cyber defense, cognitive models

Optical sensing, compressive sampling

Arctic S&T and Naval Engineering

Additive Manufacturing Qualification and Certification

**Jet Engine Notice Reduction** 

**CMTC** Composites

Inspection Under SHT, Phase I S2711 project NMC

Technical Innovation Display

Autonomy for unmanned systems

**CDEW** 

Rapid Technology Transition

Undersea Weapons and Platforms

Armor Damage Assessment

Finite Element Model Guided Penetrating Injury Scoring Methods for Rapid Armor Assessment

Injury Assessment, PPE Armor Performance, Armor Pentration

Armor Test Methodologies, Human Surrogates

Autoonomy

Corrosion programs

High Energy Laser Technology

NMC Integrated Metrology for Ship Construction S2563

Power and Energy

Power and Energy

Electronic Warfare

Cyber Security

Information Systems Technology: Information Processing;

Undersea Medicine

Radio Frequency

Noise Induced Hearing loss and shipboard noise control. This is an update to a seminal talk on aircraft carrier flight operations ("Landing on the Roof, 1999)

Biotechnology

Power and Energy

**Graphene Nanoelectronics** 

Electrical engineering: Quasi-optical THz chip-to-chip data link

**Energertic Materials** 

Human Performance, Training, and Education

SBIR/STTR Outreach

Additive Manufacturing

Human Performance Training and Education

Electric actuators

FNC Program Overview geared to ONR Global

Electrical Engineering

Seabasing Technology

Navy ManTech

ONR Navy ManTech 03T

Tactical EO-IR SIGINT Integrated for Targeting

Atomic Clock Development

Tactical vehicle evolution

**FNC Program and Process** 

Intelligence technologies

Navy ManTech 03T Al

Weapons, Power & Energy

Air Warfare and Weapons

blast, blast injury, traumatic brain injury, modeling and simulation, fluid dynamics

Air Warfare and Weapons

Navy ManTech Program

Ship Hydrodynamics

FNC Discussions with NAVSEA 073

Biotechnology, Microbiology, environmental sensing

Pentagon TID

Pentagon TID

Code 31 Posters

Counter IED

Counter IED

submarine, mission planning

Pentagon TID

Code 33 Posters for Pentagon TID

Code 34\_Posters for Pentagon TID

micro-satellites, UAVs

Biotechnology, Bioengineering

Communicating Innovation

Nobel Prize Poster Pentagon TID

Information Processing

Maritime Sensor Systems

Passive Radar

Technical Paper mitigation of AL sensitization

**ONR Overview** 

Math and Computer Science

THz integrated circuits, high-speed interconnects, electrical engineering.

Atomic Clocks

Power and Energy

Semiconductor Technology

Power and Energy

Naval Air Warfare and Weapons

EMC2 Program

Pulsed Power

NSAM

measures of learning

Corrosion programs

**Electrical Engineering** 

Pentagon TID ONRG Bannerstand

**HPRF** 

## Lasers

Blast - neurofunctional assessment research (Force Health Protection Future Naval Capability effort) energetic Materials Reactive Materials

**Applied Optics** 

RF Radiated Noise and Interference

Additive Manufacturing materials

Naval S&T Workforce

Hydrodynamics

**Decisoin Making** 

NSAM S2660 Resource Availability

Warfighter protection and performance

Information Systems Technology: Information Processing

Injury Risk Estimation & Improved PPE Armor Performance

training

MIW, EOD, NSW, Ocean Engineering

**CDEW** 

Relative Ship Pose Estimation

Power and Energy

Power and Energy

Power and Energy

Undersea Weapons

Hydrodynamics

NMC GTC Durability Coating (S2541) Project

Jet Engine Turbine Reliability

Synthetic Biology

Tracking System for USV Operations

Shallow Water Wave Breaking Characteristics

automated launch and recovery of a small autonomous underwater vehicle

EMC2

EMC2

Alternative Energy

Education

Maritime Sensor Systems

Hydrodynamics

C4 technology areas; sub-areas

S&T work in autonomy - a timeline

energetics

Code 30

Fluids and Structures

**Hydrodynamics** 

Hydrodynamcis

EOC Electronics Processing and Fabrication (ManTech)

**EOC Processing and Manufacturing Technology** 

Maritime Domain Awareness

Human Computer Interfaces, Unmanned Systems

Fiber lasers

Energetics

Fiber lasers

**CMTC Composite Weapons Systems** 

**IEEE** 

Basic Research on Monsoons that was sponsored by ONR; this article is an introduction written by quest editors

Maritime Sensing

Code 30 ISR

Statistical Analysis

**EOC Electronics** 

code 30, ISR

**Event Data Analysis** 

Acoustic Transduction Materials and Devices

Noise induced hearing loss

Hydrodynamics

Wireless Spectrum

human factors, training fidelity

training, automated forces

NSAM S2591 CAD/DAM Interface for Steel Pipe Processing

NSAM SS S2544 Machine Readable Transactions

Spectrum knowledge standards and ontologies

Swarm Technology

Numan Factors, Human Machine Interface design, Unmanned Systems, Autonomy

Hydrodynamics

Magnetic Sensing

Artificial Intelligence and Augmented Reality in Training Systems

Overall top level investment areas in potential S&T

Lasers

Force Health Protection

Magnetic Sensing

Energy Storage

**Energy Storage** 

NSAM DDG ManTech

**Energy Storage** 

Poster for NUWC ANTX Event

Unmanned Systems - Future Naval Capability, Human Machine Interface

**Unmanned Warrior** 

Marine Radars

NMC Distorition Mitigation for AM Electronic Chassis S2631

Acoustic Transduction Materials and Devices

Power and Energy

Signal processing performed under ONR contract N00014-12-M-0037.

Microwave Filters

Hydrodynamics

Daily- Introduction Brief for the 2016 FNC Transition Assessment Reviews

Exhaust Jet Noise Recuction

Noise Induced Hearing Loss

microresonator frequency comb

Noise Induced Hearing Loss

Force Health Protection; Blast

High Energy Lasers

CMTC Composites Navy ManTech

Solid Mechanics

**Propulsion Materials** 

**Corrosion Programs** 

**ONR 33 Energy Programs** 

Undersea Weapon

Manufacturing Technology

Hydrodynamics

NMC SS Debond Detector Units

NSAM A2656 F-35 Assembly Metadata Integration

Rail gun Program

**Electrical Engineering** 

Electronmagnetic Railgun and Hyper Velecoty Projectile

Inirgabuc Sybthesus-Cluster Science

**Energetics: Reactive Materials** 

Inorganic Synthesis-Cluster Science

Pwer & Energy; Solar Cells

**ONR Global Annual Report** 

Vehicle Driver Fatigue and Attention

Internet Protocol (IP) Computer Software Technology

Autonomous Aerial Cargp Utlity System (AACUS)

Laser Beam Control

**Hydrodynamics** 

Program review introductory remarks

Information Integration

Sustainment

Sustainment

Hydrodynamics

Exercise Unmanned Warrior

Solid Mechanics

**Physics** 

Ship Moitons

Machine Learning

C4ISR

**HTS Superconductors** 

Additive Manufacturing

Power and Energy

NMC Abrasive Blasting Arm or Man Lift Presentation

NSAM S2653 Mobile Computing Design/Build Process

S&T Overview

High Energy Laser Weaons

GaN

iMAST RepTech Navy ManTech

ONR grant/contract post-award administration

Electronic Warfare

**Automated Target Recognition** 

S2547 Improved Cable Lay and Sequencing NSAM

Data analytics - Information processing/ ONR Contract # N00014-12-C-0365

GaN

Photonics, Mems, Sensors

NSAM S2660 Resource Availablilty

iMAST Operations Navy ManTech COE

NMC Mechanized Cable Pulling S2560 Project

**Unmanned Surface Vehicles** 

Human Factors - Human Machine Interface design

**Underwater Sonar** 

human factors; hazard analysis

human factors

**Aviation Power Propulsion** 

Randomized Algorithms, Kernel Methods

Aviation Jet Noise Red

Broadband isolator technology

High Energy Laser Directed Energy Weapons

Communications and Networks

Fire from enclosures

GaN

Advamced Energetic Materials

Fire from enclosure

Future Naval Capability Crew Station Human Machine Interface

Poster for project description of energy absorbing structures.

RF Radiated Noise and Interference

overview for research program in dielectric materials for capacitors

Polymer

Cannon-Delivered Area Effect Munition

ONR Overview - Energy

FFE

Magnetic Sensing

**ALERT** 

densified propellant

**Densified Propellant** 

Long-Range Acquisition Forecast (LRAF) provides a projection of ONR business opportunities; makes this information available to the small business community

Autonomous Aerial Cargo Utility System (AACUS)

S2662 Non Contact Metrology NSAM

NSAM S2644 Induction Straightening

Swarming UAVs

Information Support to Operationw

virtual training

Magnetic Sensing

**Unmanned Warrior** 

Additive Manufacturing

Counter High Energy Laser Weapon Technology

Electronagnetic Launch to Space

**Electrical Engineering** 

**Tech Solution** 

Tech Solutions

CMTC F-35 Canopies

iMAST Sustainment - Reptech

NMC - Metalworking

NSAM

Information Support to Operations

S&T

SBIR/STTR Transitions Newsletter

Improved Weapons Magazine C-Channel project NMC

virtual training

Cryptography

Railgun

S2556 Modular Outfitting Packaged Units NSAM

**Electronic Warfare** 

training

GaN

Comms & Networking

**ONR Overview** 

Health and Usage Monitoring (HUMS)

Health and Usage Monitoring HUSMS

**Propulsion Materials** 

Sea Base Aviation

virtual training

Cvber & Software

Information Systems Technology: Information Processing; ONR contract N00014-12-C-0365. Abstract and schedule, "Accumulo Indexing Strategies for Searching Semantic Networks" was released for public release, distribution A, with DCN # 43-2013-16.

Training on federal regulations pertaining to GFP and Contractor Acquired property under contract Underwater Sonar 2017 Navy Program Guide Update

virtual training

LVC training

NMC CH-53 Frame Machining Distortion Mitigation project

Recruitment

Unmanned Surface Vehicles

**Underwater Sonar** 

MEMS Gyro Compassing, North finding

MEMS Gyro Compassing, North finding

Materials

Antenna theory and antenna modeling.

**Naval Internships** 

Spectrum operations and EMW compilation of material previously released

Electromagnetic Manuever Warfare

Cyber Defense

Cyber Defense

**Electronics EOC** 

**EOC Electronics** 

Materials Science & Engineering

S&T

Information Systems Technology, ISR. ONR contract N00014-15-I-2376.

Image Processing. Work performed under ONR contract N00014-15-C-0091.

STEM

Awareness and Localization of Explosives-Related Threats (ALERT)

USVs and Power & Energy

Materials Science & Engineering

Undersea Power and Energy

Information Processing

Antennas

Solid Mechanics, Composites

**Passive Sensors** 

2017 Department of the Navy Forum for SBIR/STTR Transition - FST

Technology Transfer

Cognitive Autonomous Undersea Vehicles (AUV)

Acoustic Transduction Materials and Devices

Navy ManTech

Overview of the FNC Program

Minor updates to the FNC Proposal Process

**Aerodynamics** 

Lightweight Innovations For Tomorrow (LIFT) Project MELT5a - Thin Wall Ferrous Casting Project Warfighter Performance

Information Processing

DoD research projects with academia, TLR and Noise Indcueed Hearing Loss

A2609A - Primver Tickness Measurement for Seam Validity

A2609A Primer Thickness measuement for Seam Validity

Improved Abrasive Technology (S2471) project NMC

NMC S2579 Sonar Dome Fabrication Process Improvements

NMC Tow Cable Maintenance Winch Z2581 project

17.1 ONR SBIR Topics

Advanced Entergetic Materials

NMC Sonar Dome Fabrication

NSAM S2667 Enhanced Task Assignment and Progressing

Synthetic Environments

Wave Radar: Environmenta and Ship Motion Forecasting

Underwater Acoustics (funded by TOC/USW)

Electronics EOC

human response, task performancee

human behavior, watch standing

Cyber Data

SBIR/STTR Phase II Research Efforts

Materials Science and Engineering

Aircraft Engine Technology

Achieving Stable Micro-Grids

NMC Tow Cable Maintenance Winch Z2581 project

Optical Materials and Processes

**EO-IRCM** 

Photovoltaic power research MIPR# N0001416IP00089

Online magazine

Human Research Protection Programs

Synthetic Aperture Sonar

**Hydrodynamics** 

Materials

**Updated FNC Proposal Process** 

Information Science

Hearing protection effectiveness

virtual constructive training

Undersea Based Deterrence

Blended Adaptive Language

& Culture Training

03T S&T Investment strategy

Navy ManTech projects

Electronic Processing and Fabrication EMPF

EMPF Electronics Processing and Fabrication

**Electronic Processing and Fabrication** 

Electronic Processing and Fabrication EMPF

NMC Distortion Mitigtion for AM Electronic Chassis S2631

automated training tool

NMC Mitigation of Cracking in Sensitized Al S2576

adaptive training

unmanned warrior

Operational Energy Modeling

**Operational Energy Modeling** 

**Electronics and Electromagnetics** 

**Electronics and Electromagnetics** 

GaN and Si heterogeneous integration

**CMTC** Composites

**EMPF Electronic Processing and Fabrication** 

**Human Systems** 

IEDM On-chip power conversion

Acoustics

**Energetic Materials** 

Robotics

Fluild mechanics

Power and energy

Power and Energy

virtual constructive training

adaptive training

automated training tool

**HPM** 

**Energetic Materials** 

Various

Electronic Warfare

**CMTC** Composites

**CMTC Composites** 

**CMTC** Composites

iMAST Repair Technology

NSAM S2499 Advanced UP Methods for NDT of Hull Welds

Capable Manpower FNC - CaSHMI PRoduct - Unmanned Vehcle Human Machine Interface Design

Ship Systems S&T

human-systems integration

AGU Banner stand

Undersea Weapons

Augmented Reality, Virtual Reality, Autonomy

Undersea Weapons

Undersea Weapons

Power and Energy

Ocean Battlespace Sensing

Electronics - EOC

**Power Conversion** 

Additive Manufacturing

random processes

Probability theory

SBIR/STTR

DoN Office of Small Business Programs FY16 Small business Executive Summary

GaN

Power and Energy

Tunable microwave filters

accident modeling

A2656 F-35 Assembly Metadata Integration - NSAM

A2656 Enhanced Task Assignment and Progressiong NSAM

Slamming Loads

**FOA SOLICITATION** 

**Energetic Materials** 

Distributed Cyber Decision Making

Radomized Matrix Factorization Gaussian Processes

Power and Engergy

Aircraft Engine Technology

ONR Global History

Acoustics

Acoustics

Magnetometry

iMAST LIF ManTech Project

Magnetic Sensing

Advanced Emergetic Materials

Web Applications

Work performed for ONR under contract N00024-12-D-6404.

NSAM S2652 Optimized Lifting and Handling

Funding Opportunity Announcement - GRANTS ONLY, basic research.

Direct Digital Manufacturing

History of NRL and ONR

Signatures

Noise Induced Hearing Loss

Noise Induced Hearing Loss

Noise-Induced Hearing Loss

**Unmanned Surface Vehicles** 

**Unmanned Surface Vehicles** 

Unmanned Surface Vehicle

Noise-Induced Hearing Loss

Transduction for Maritime Sensing

**Acoustic Transduction Materials** 

Financial and programmatic

Biotechnology

Biotechnology

Superconductivity

ONR S&T, Phys monitoring

Magnetic Sensing

ONR/ONRG Overview, synthetic biology concept description

Multihull work

Fiber lasers

Fiber lasers

Jet Engine Noise Reduction

USMC tactical bulk fuels handling and metering

Forward-looking passive millimeter-wave radiometer

D&I

Power and Energy

MCM

SBIR/STTR Quad Chart on Crowd Sourcing

MCM

MCM

Electronic Warfare

TechSolutions

**MCM** 

**TSOA-NGEN Compliant Applications** 

MCM

Polymer

communications

Naval Materials/Education

Structural Acoustics

Structural Acoustics

CMTC

MCM

Technology Transfer

Information Systems Technology; ISR; Optimization

Science of Autonomy

Robotics

Railgun Test Firings

Shock Physics, Polymer Science

Power and Energy

Marine Corps Project

Surface Functionalization Technique

Additive Manufacturing

NSAM R2722 Automated Part Detail Extraction

**NSAP** 

**NAVAIR** 

Research Opportunities

Summer Faculty and Sabbatical Leave

Naval Research Lab

Faculty Start up

Maritime Sensor Systems

NSAM S2703 Electronic Weld

Code Overview

Hydrodynamics

Power and Energy

**SHOCK PHYSICS** 

Computational Context, Command DEcision Making

NSAM S2449 Retractable Bow Planes

Power and Energy

iMAST Operations (COE)

Navy ManTech Al

S2571 Synchronizing Material Logistics NSAM

NSAM S2571 Synchronizing Material Logistics

Fluid mechanics

Inspection Under SHT, Phase 1 Q2711 project

S&T efforts focusing on cyber-domain issues

Structural Health Monitoring

**Machinery Controls** 

**Electromagnetic Materials** 

**Electromagnetic Materials** 

Position, Navigation, and Timing Technology

**iMAST Overview** 

Carrier Strike Group Planning Software

Noise Induced Hearing Loss

Materials Science & Engineering

EM Launch

Force Health Protection

Force Health Protection

Fluid-Structure Interaction (FSI)

**Propulsion Materials** 

Cyber

human performance, total ownership cost

Corrosion

NMC rinted Sand Castings Molds and Cores (S2635) Projects

Structural Health Monitoring

**EOC Fiber Optics / Electronics Processing** 

Weld Sequence Planning S2606 project NMC

**iMAST Projects** 

Composites

SAS/SAR

simulation-based training

NSAM S2594 Dynamic Change Awareness

S2594 Dynamic Change Awareness -NSAM

S2667 Enhanced Task Assignment & Progressing NSAM

S2660 Resource Availability

NMC Self-Locating / Self Fixtured Structure S2633 project

Simulation-based training

Navy ManTech -Al

Communication performance in high noise environments

GaN

Radar

NSAM/CMTC/CNM

Supercavitating Hydrodynamics

Supercavity Hydrodynamics

Structural Health Monitoring

Synthetic Biology

Additive Manufacturing of Titanium Alloys

**EOC Electro-Optics** 

NSAM

Navy ManTech Al

Materials Science and Manufacturing Processes

Platform Design

Self-Locating / Self-Fixtured Structure S2633 Project

**CMTC** Composites

MRAP Improved Crack Rearir R2659 Project NMC

Fluids Engineering

Fluids Engineering

Semi-Automated forces; simulation-based training

A2656 F35 Assembly Metadata Integration NSAM

training, electronic warfare

iMAST Additive Manuf

Various

SBIR/STTR

Integrated Topside

Warfighter Performance

Computer Vision, Information Processing

Mechanics of Materials

Human Performance, Training, and Education

DoD Innovation and Collaboration Opportunities

FOA

NSAM ManTech Project S2664

Semi-automated forces; simulation-based training

Fact Sheet

NSAM

NSAM project S2547

NSAM

Health and Usage Monitoring (HUMS)

TTCP

Guidebook of the FNC Program, updated FY16

Health and Usage Monitoring HUMS

marine mammals and biology

Advanced Manufacturing Enterprise Tools NSAM / iMAST

Undersea Medicine

**Unmanned Surface Vehicles** 

Noise Induced Hearing Loss

Structural Health Monitoring

Human Performance, Training & Education

Materials Science & Engineering

Technology Transfer

**RF Electronics** 

GaN

Combustion

GaN

**Unmanned Sureface Vehicles** 

**Unmanned Surface Vehicles** 

Materials Science & Engineering

**Decision Support** 

Materials Science and Engineering

Material Science and Engineering

Materials Science and Engineering

Materials Science and Engineering

Materials Science and Engineering

Materials Science and Engineering

**Fact Sheets** 

Information Systems Technology; ISR; Optimization Information Systems Technology; ISR; Optimization

Electronics

Cyber

Warfighter Performance

**Unmanned Surface Vehicles** 

**Unmannned Surface Vehicles** 

SBIR presentations for Small Business Professionals (Gov't and their Spt Contractors)

**iMAST Overview** 

Overview of the FNC Program

Transitions by Resource Sponsor (RS) and Program of Record (POR)

**ONR Young Investigator Program** 

Composite CMTC

Data analysis

Radar

Cyber Security S&T

Code 332

**DPICM** fuses

Brief overview on the FNC Program for 03R or 03T to use

Force Health Protection

Code 332

Code 332

STEM

ONR Global at a Glance

Background on ONR & Updates on ONR Regional Office Activities

GaN

Code 332

**Unmanned Surface Vehicles** 

digital super resolution

ground vehicle autonomy

**Propulsion Materials** 

Human Performance Training and Education

Code 332

Jet engine Noise Reduction

Microbiology

Reseach adminstration update

Technology Transfer

STEM

autonomous ground vehicle, terrain traversability

Decision support (crowd sourcing)

Remote Sensing and Sea Clutter

**ONR SBIR 2017.2 SBIR Topics** 

**Unmanned Surface Vehicles** 

C4ISR

Marine robotics and propulsion

Marine robotics and propulsion

C2 and Information Sciences

**Digital Circuits** 

Hearing loss (auditory injury, hearing research

Shipboard noise control, acoustics

Autonomous ground vehicle

Naval Engineering

Academia research, military research

Ballistic armor, functionally graded materials

Metal Material composites

AAAS Program

Description

Polar Environmental Research

**Unmanned Surface Vehicles** 

Dielectric Breakdown and Energy Storage

Dielectric Breakdown and Energy Storage

Self-Locating/ Self - Fixtured Structure S2633 project / NMC

Energy Storage and Power System

human machine interface

Solid State Chemistry and Materials Science

**Unmanned Surface Vehicles** 

Energy Storage

Power System

Power Systems and HESMs.

Maritime Sensing (Mike Traweek). Keywords—composable; simulation; modeling; cloud; scalable

FLC Awards for Technology Transfer

**Advanced Emergetic Materials** 

Sea Based Aviation Structures & Materials

Sea Based Aviation Strutures&

Materials

Materials science

Health Usage and Monitoring

**STEM** 

Computational Mechanics

Navy ManTech Naval Shipyard Update

Signal Article - NSAM 2701 Digital Paint Tools and Process Optimization

NSAM S2701 Digital Paint Tools and Process Optimization

NSAM S2697 Hybrid Laser Arc Welding for Ship Production

NSAM S2667 Enhanced Task Assignment adn Progessing ETAP

NSAM S2700 Tactical Info Planning Systems (TIPS)

Decision support

**Decision Support** 

Lean Investment Methods

S&T Research Program Areas

Aerodyamic Modeling Method

**Expeditionary Cyber** 

Fluid Flow

Warfighter Performance

Materials Science and Engineering

Materials Science and Engineering

W-band HPA and GaN Technology

**Bulk Fuel Management** 

Femtosecond Laser technology

Improving the Performance and Survivability of Tomorrow's Expeditionary Warfighter at ONR

EM Launch

Materials Science and Engineering

Materials Science and Engineering

Materials Science and Engineering

Materials Science and Engineering

S&T

Propulsion

Jet Engine Noise Reduction

Jet Engine Noise Reduction

Power and Energy

**Operational Energy** 

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7. Approved by Security 7. Approved by Security	100.00%
	100.00%
7. Approved by Security	
7. Approved by Security	100.00%
6b. Rejected by Security	80.00%
7. Approved by Security	100.00%
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7. Approved by Security	100.00%
7. Approved by Security	100.00%
7. Approved by Security	100.00%
7. Approved by Security 7. Approved by Security	100.00%
7. Approved by Security 7. Approved by Security	100.00%
	100.00%
7. Approved by Security	
7. Approved by Security	100.00%
7. Approved by Security	100.00%
7. Approved by Security	100.00%
6b. Rejected by Security	75.00%
7. Approved by Security	100.00%
7. Approved by Security	100.00%